West Bay Exploration company

13685 S. West Bay Shore / Suite 200
Traverse City, MI 49684
231-946-0200 / Fax: 231-946-8180

January 26, 2012

USEPA—UIC Control Branch
77 West Jackson Blvd.
Chicago, IL 60604
ATTN: Mr. Tim Elkins

RE: Haystead 9 SWD
Permit application

Dear Mr. Elkins:

Enclosed, please find an amended permit application for the Haystead 9 SWD, as per your discussions with Mr. Timothy Brock, PE-Brock Engineering, on behalf of West Bay Exploration.

If you should have any further comment, or any questions, please feel free to contact Mr. Brock via e-mail at brock.engineering@yahoo.com, or by telephone (231) 421-3001 or Cell: (517) 242-6688.

Thank you for your time and consideration of this matter.

Sincerely,

Ann M. Baker
West Bay Exploration Company

OMB No. 2040-0042 Approval Expires 12/31/2011

United States Environmental Protection Agency

Underground Injection Control Permit Application

(Collected under the authority of the Safe Drinking Water Act. Sections 1421, 1422, 40 CFR 144)

I. EPA ID Number			
		T/A	C
U			

Read Attached Instructions Before Starting

For Official Use Only

Application approved mo day year	Date received mo day year	Permit Number	Well ID	FINDS Number

II. Owner Name and Address			III. Operator Name and Address		
Owner Name: West Bay Exploration Company			Owner Name: West Bay Exploration Company		
Street Address: 13685 South West Bay Shore Drive, Suite 200		Phone Number: (231) 946-0200	Street Address: 13685 South West Bay Shore Drive, Suite #200		Phone Number: (231) 946-0200
City: Traverse City	State: MI	ZIP CODE: 49684	City: Traverse City	State: MI	ZIP CODE: 49685

IV. Commercial Facility	V. Ownership	VI. Legal Contact	VII. SIC Codes
[ ] Yes [x] No	[x] Private [ ] Federal [ ] Other	[x] Owner [ ] Operator	1311

VIII. Well Status *(Mark "x")*

[ ] A. Operating	Date Started mo day year	[ ] B. Modification/Conversion	[x] C. Proposed

IX. Type of Permit Requested *(Mark "x" and specify if required)*

[x] A. Individual [ ] B. Area	Number of Existing Wells	Number of Proposed Wells	Name(s) of field(s) or project(s)
	0	1	Haystead 9 SWD

X. Class and Type of Well *(see reverse)*

A. Class(es) (enter code(s))	B. Type(s) (enter code(s))	C. If class is "other" or type is code 'x,' explain	D. Number of wells per type (if area permit)
II	D		

XI. Location of Well(s) or Approximate Center of Field or Project

Latitude			Longitude			Township and Range							
Deg	Min	Sec	Deg	Min	Sec	Sec	Twp	Range	1/4 Sec	Feet From	Line	Feet From	Line
42	08	02	84	12	23	9	4S	2E	SW	2475	S	1123	W

XII. Indian Lands (Mark 'x')

[ ] Yes
[x] No

XIII. Attachments

(Complete the following questions on a separate sheet(s) and number accordingly; see instructions)

For Classes I, II, III, (and other classes) complete and submit on a separate sheet(s) Attachments A--U (pp 2-6) as appropriate. Attach maps where required. List attachments by letter which are applicable and are included with your application.

XIV. Certification

I certify under the penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibliity of fine and imprisonment. (Ref. 40 CFR 144.32)

A. Name and Title *(Type or Print)*	B. Phone No. *(Area Code and No.)*
Timothy Brock - Petroleum Engineer-Agent for West Bay Exploration Company	(231) 946-0200
C. Signature: Timothy Brock AB	D. Date Signed: 04/27/2011

EPA Form 7520-6 (Rev. 12-08)

Affidavit of Well Plugging

I hereby certify that I have reviewed the records of West Bay Exploration Company regarding the plugging of the Haystead 1-9 well, MDEQ Permit Number 60076, and that this wellbore was plugged by placement of 120 sacks of Class A cement (15.6 ppg, 1.18 cuft/sx yield) from 4212' to 3798' and with 125 sacks of Class A cement with 3% Calcium Chloride (15.6 ppg, 1.18 cuft/sx yield) from 3600' to 3169'. Following cementing, the top plug was tagged at 3164' on June 3, 2010. The wellbore was redrilled for the Haystead 1-9A (MDEQ Permit Number 60106), which was completed as an oil producer. Hole above the plugs from the original Haystead 1-9 wellbore is presently being used for the Haystead 1-9A well and it has been properly cased and cemented. I have attached the pertinent supporting details to this affidavit.

Timothy J Brock, PE
State of Michigan Registered Professional Engineer #39603
Date Signed: January 24, 2012

Haystead 9 SWD
EPA Permit Attachments and Appendices 1/24/12
Attachment A

Area of Review Methods:
The area of review is a fixed radius of ¼ mile from the well bore.

Attachment B

Maps of Wells/Area and Area of Review:

Attached is a topographic map that extends at least 1 mile beyond the proposed injection well. Shown are the following: the injection well, the ¼ mile radius of review, all producing wells, injection wells, abandoned wells, surface bodies of water, springs and other pertinent surface features. The map also shows residences and roads. There are no residences within the area of review, and as such there are no fresh water wells of record within the area of review. It is planned to drill a temporary fresh water well for water supply for drilling in the vicinity of the proposed injection well. No faults are known to exist or suspected in the area of review. The following is a list of the wells drilled or proposed within the area of review and their type:

Map Ref.	Well Name	Surface Location	Date Drilled	State PN	Operator	Total Depth	Status
60076	Haystead 1-9	NE/NW/SW SEC.9 T4S R2E	05/2010	60076	West Bay Exploration Company	4804' MD	Dry Hole
60106	Haystead 1-9A	NE/NW/SW SEC.9 T4S R2E	06/2010	60106	West Bay Exploration Company	4589' MD	Producing Oil Well (kick of 1-9)
60078	Haystead 3-9	NE/NW/SW SEC.9 T4S R2E	N/A	60078	West Bay Exploration Company	Not Drilled Yet	Permitted Oil and Gas Well
PROP	Haystead SWD	NE/NW/SW SEC.9 T4S R2E	N/A	N/A	West Bay Exploration Company	Not Drilled Yet	Proposed UIC Well

All of these wells either will or have penetrated the injection zone (only three penetrations due to the directional geometries of the wells) and have been cased and cemented across the injection zone. An unnamed intermittent stream flows from the southeast to the northwest in the northeastern part of the AOR. This stream empties into the River Raisin. There are no known springs within the area of review. There is a marshy area on the southeast part of the AOR and a marshy area that follows the unnamed intermittent stream.

Attachment C

Corrective Action Plan and Well Data:

Should upward fluid migration occur through the well bore of any previously unknown, improperly plugged or unplugged well due to injection of permitted fluids, injection will be shut-in until proper plugging can be accomplished. The UIC branch of the EPA will be notified immediately. Should any problems develop in the casing of the injection well, injection will be shut-in until such repairs can be made to remedy the situation. Operations shall not be resumed until the Director gives approval in writing.

Attached are copies of the well completion reports for all wells within the area of review.

Attachment D

Maps and Cross Sections of USDW's:

Does not apply to Class II wells.

Attachment E

Name and Depth of USDW's:

The following are the USDW's in the area of the subject permit. This information was gathered from public well records, as well as the publication 'Hydrogeology for Underground Injection Control in Michigan: Part 1' and the Michigan Hydrogeologic Atlas (Plate 24), both published by the Department of Geology, College of Arts and Sciences, Western Michigan University, Kalamazoo, Michigan, 1981. The depth to the base of the lowermost USDW was determined by mapping the existing well control in the area. Attached is a map showing the subsea depth of the base of lowest USDW in this area.

Name of USDW	Measured Top of USDW	Measured Base of USDW
Glacial Drift	Surface	85'
Marshall Sandstone	85'	217'

Attachment F

Maps and Cross Sections of Geologic Structure of Area:

Does not apply to Class II injection wells.

Attachment G

Geologic Data on Injection and Confining Zones:

Upper Confining Zone:

Name:	Salina Gray Niagaran
Depth:	2830'-2870'
Thickness:	40 feet
Lithologic Description:	Argillaceous carbonate, dense, hard, gray, excellent barrier to flow.

Injection Zone:

Name:	White Niagaran
Depth:	2870'-3100'
Thickness:	230 feet
Lithologic Description:	Dolomite, hard, sucrosic, vuggular, porous and permeable, brown and grey.

Lower Confining Zone:

Name:	Clinton Shale
Depth:	3,100'-3,210'
Thickness:	110 feet
Lithologic Description:	Shale and tight argillaceous limestone and dolomite. Hard and dense. Excellent barrier to flow.

Attachment H

Operating Data:

Estimated maximum injection rate: 1200 bbl/day

Proposed maximum injection pressure:

Assumed frac gradient:	0.8 psi/ft
Specific Gravity of Fluid:	1.193 (fresh water = 1)
Upper Depth of Inj. Zone:	2,870 feet

P_{max} = {[0.8 – (0.433)*(SG of Inj. Fluid + 0.05)]*Upper Depth of Inj. Zone} – 14.7

P_{max} = {[0.8 – (0.433)*(1.193 + 0.05)]*2,870} – 14.7

P_{max} = 737 psig

Attachment I

Formation Testing Program:

No formation testing is planned for this well.

Haystead 9 SWD
EPA Permit Attachments and Appendices 1/24/12

Attachment J

Stimulation Program:

A small acid job of about 3,000 gallons of 28% HCl acid will be used to stimulate the well and clean up any drilling damage.

Attachment K

Injection Procedures:

Injection into the subject well will be from a tank, equipped with a dump valve. The wellhead will be equipped with a check valve to prevent backflow. It is anticipated that the well will accept the estimated daily injection volume on a vacuum. However, if it becomes necessary to use a pump to dispose of fluids from the separator, an appropriately sized positive displacement pump will be installed. This pump will be equipped with a bypass downstream of the pump with a pressure relief valve that will be set to maintain an injection pressure below the maximum permitted injection pressure. This relief will be plumbed back into the tank and will be periodically tested to insure it is in good, working order.

Attachment L

Construction Procedures:

It is proposed to drill the Haystead 9 SWD as a dedicated disposal well. Attached are the State of Michigan forms that will be filed to permit the drilling of this well. They show casing and cementing details for all the strings. After the well is drilled, it is planned to drill out the casing shoe, clean out to TD and stimulate it with about 3,000 gallons of 28% HCl acid to remove drilling damage and improve injectivity. No other stimulation is planned. A packer will be run to about 2,850' and set. Treated fluid will be circulated into the annulus between the 5-1/2" production casing and the 2-7/8" tubing to inhibit corrosion and scavenge oxygen.

Attachment M

Construction Details:

Attached is a schematic showing the construction details of the well. The injection fluid will be sampled at the wellhead.

Attachment N

Changes in Injection Fluid:

Does not apply to Class II wells.

Attachment O

Plans for Well Failures:

Should any situation arise which would indicate a possible well failure, injection will be immediately discontinued and the source of the problem traced. If a loss of mechanical integrity occurs, the EPA will be immediately notified and plans to remediate the well will be prepared. Upon approval, the well will be repaired and a new, witnessed mechanical integrity test will be performed. Upon EPA approval, the well will then be placed back into service. A shut-in of the injection well will not pose a threat to USDW's, as long as mechanical integrity is maintained. Brine production from wells using this injection well will either be trucked in the interim or the wells will be shut-in until the well is placed back into service.

Attachment P

Monitoring Program:

The monitoring program for this well will consist of compliance with the EPA permit requirements of filing monthly, quarterly and annual reports.

Attachment Q

Plugging and Abandonment (P&A) Plan:

Attached is the plugging and abandonment plan for this well. Also attached is a detailed plugging cost estimate prepared by West Bay Exploration Company.

Attachment R

Necessary Resources:

Attached is information to verify that the financial resources are available to close, plug and abandon the well. NEED TO ATTACH YET

Attachment S

Aquifer Exemption:

An aquifer exemption is not being requested for this injection well.

Haystead 9 SWD
EPA Permit Attachments and Appendices 1/24/12
Attachment T

Existing EPA Permits:

West Bay Exploration has the following other existing EPA permits:

Well Name	EPA Permit Number	State Permit Number	Location	Township	County
Neeley 1-22	MI-025-25-2D-0037	39700	NW/SW/SE 22 1S 5W	Lee	Calhoun
Tel B2-25	MI-101-2D-C030	47875	NW/SE/NW 25 23N 15W	Bear Lake	Manistee

Attachment U

Description of Business:

West Bay Exploration Company is involved in the exploration, production and marketing of crude oil and natural gas.

Haystead 9 SWD
EPA Permit Attachments and Appendices 1/24/12

Appendix 1

Listing of Names and Addresses of Landowners Within the Area of Review:

See attached list that contains the names and addresses of the landowners within the AOR.

Appendix 2

State Historic Preservation Office Notification:

See attached letter.

Appendix 3

State Coastal Zone Management Notification:

Jackson County does not border the Great Lakes and as such is not within a Coastal Zone Management Area.

Appendix 4

Records of all State Drilling, Completion and/or Plugging Reports for all Wells Within the Area of Review:

All known State drilling, completion and plugging records of oil and gas wells and fresh water wells within the Area of Review have been attached.

Appendix 5

Physical and Chemical Characteristics and Description of the Source of the Injection Fluid:

Attached is an analysis of brine similar to that which will be injected. This brine was collected from the Lantis 2-30, which is a well operated by West Bay Exploration Company in the Napoleon Field. The following is a list of wells that will use this disposal well, if approved:

Well Name	State Permit Number	Location	Field	County
ADAMS 1-21	60144	NW/NE/SE 21 4S 2E	Napoleon	JACKSON
BRADLEY ET AL 1-27	60088	SW/NE/SE/27 4S 2E	Napoleon	JACKSON
CANNING 1-15	60013	SW/SW/SE 15 4S 2E	Napoleon	JACKSON
COCHRANE 1-13A	60112	NE/NE/SE 13 3S 1E	Napoleon	JACKSON
COCHRANE 3-13	60089	SE/SW/NE 13 3S 1E	Napoleon	JACKSON
CURRIE ET AL 1-34	60143	NE/SE/NW 34 4S 2E	Napoleon	JACKSON

CURTIS 1-32	60069	SE/SW/SE 32 3S 2E	Napoleon	JACKSON
CURTIS 1-5	60102	NE/SW/NE 5 4S 2E	Napoleon	JACKSON
DENSMORE 1-36	59269	SW/SE/SW/36 4S 3W	Napoleon	JACKSON
EIGHMEY 1-15	60014	SW/SW/SE 15 4S 2E	Napoleon	JACKSON
GOLOWIC 1-22	59955	SW/NW/NW 22 4S 2E	Napoleon	JACKSON
HARDCASTLE 1-26	60085	NE/SW/NW 26 4S 2E	Napoleon	JACKSON
HAUSER 1-32	59907	SE/SW/NE 32 3S 2E	Napoleon	JACKSON
HAYSTEAD 1-9A	60106	NE/NW/SW 9 4S 2E	Napoleon	JACKSON
HAYSTEAD 2-9	60077	NE/SE/NW 9 4S 2E	Napoleon	JACKSON
HAYSTEAD 3-9	60078	NE/NW/SW 9 4S 2E	Napoleon	JACKSON
HILDEN-ROVSEK ET AL 1-15	60053	SW/NE/SE 16 4S 2E	Napoleon	JACKSON
HILDEN-ROVSEK ET AL 1-16	59853	SW/NW/SE 16 4S 2E	Napoleon	JACKSON
HILDEN-ROVSEK ET AL 2-16	59852	SW/NW/SE 16 4S 2E	Napoleon	JACKSON
HILDEN-ROVSEK PART. 3-16	60049	SW/NE/SE 16 4S 2E	Napoleon	JACKSON
JENNINGS 1-32 HD1	59911	SW/SE/NW 32 3S 2E	Napoleon	JACKSON
LANTIS ET AL 1-29	59583	SE/NE/SE 30 3S 2E	Napoleon	JACKSON
LANTIS ET AL 2-30	60009	NW/NE/NE 30 3S 2E	Napoleon	JACKSON
LANTIS ET AL1-30	59893	SE/NE/SE 30 3S 2E	Napoleon	JACKSON
LENNOX TRUST ET AL 1-15	60055	SW/SE/SW 15 4S 2E	Napoleon	JACKSON
MORSE TRUST 1-16	60091	NW/SE/NW 16 4S 2E	Napoleon	JACKSON
NAPOLEON FARMS ET AL 1-4	60113	SE/SE/SE 5 4S 2E	Napoleon	JACKSON
NAPOLEON FARMS ET AL 1-5	60105	NE/SE/SE 5 4S 2E	Napoleon	JACKSON
RICHARDSON ET AL 1-30	59940	SW/NW/NE 30 3S 2E	Napoleon	JACKSON
SHELL 1-35	APPD FOR	SE/NW/NW 35 4S 2E	Napoleon	JACKSON
SWANK 1-22	59954	NW/SE/NW 22 4S 2E	Napoleon	JACKSON
WALBY 1-27	60087	NE/NW/SW 27 4S 2E	Napoleon	JACKSON
WALBY 2-27	60086	NE/NW/SW 27 4S 2E	Napoleon	JACKSON
WAROLIN ET AL 1-30	59939	SW/NW/NE 30 3S 2E	Napoleon	JACKSON
WEST BAY & BOYD 1-27	60010	SW/SE/SW 22 4S 2E	Napoleon	JACKSON
WEST BAY & BOYD 2-27 HD1	60094	SW/SE/SW 22 4S 2E	Napoleon	JACKSON
WEST BAY 1-22	59996	NW/SE/SW 22 4S 2E	Napoleon	JACKSON
WHALEN BYRON ET AL 1-16	60052	SW/NE/NE 16 4S 2E	Napoleon	JACKSON
WHALEN BYRON ET AL 2-16 HD1	APPD FOR	NW/SE/NE 16 4S 2E	Napoleon	JACKSON
WILSON 1-27	60081	SW/SE/NE 27 4S 2E	Napoleon	JACKSON

Plus other later wells in this area, if it becomes necessary to dispose of water from them. This field is currently undergoing development and additional wells may be added to fully develop the field.

Attachment B

Attachment E

Attachment M

BOP Testing, Inspection, Training and Maintenance

BOP Testing Procedure

The Annular, double gate, HCR, Accumulator as well as all auxiliary equipment shall be tested when installed and every 14 days there after. We shall follow an overbearing program to protect all parties involved. BOP testing shall go as follows:

1. When the BOP is installed after running casing
   (a) Fill hole, close blind rams, close standpipe, open kill line master and control valves, open choke line master and control valves, open HCR, open master valve on panic line, open inward choke valves, open chokes, close panic line control valve and isolation valves for chokes. Do low pressure test (200-300 psi) for 5 min. Do high pressure test (1500psi) for 5 min. Record in Book
   (b) All following test will have same pressures and time limits
   (c) Bleed pressure off at pump and see if check valve closes and what pressure is left. Record in Book. Bleed off pressure
   (d) Close inward valves on chokes and master valve on panic line. Do low pressure test. Record. Do high pressure test and record. Bleed off
   (e) Open blind rams and RIH with BHA and drill pipe (no float), circulate out air
   (f) With the Kelly made up into string Close pipe rams, close master valve on kill and choke line, Disconnect kill line at check valve. Do low pressure test and record, do high pressure test and record, bleed off
   (g) With pipe rams still closed, open master valves on kill and choke lines, close control valves on kill and choke line, do low pressure test and record, close upper kelly cock and bleed off at pump, record and open upper kelly cock, do high pressure test and record, close upper Kelly cock and bleed off at pump and record. Open Kelly cock and bleed off
   (h) With pipe rams closed, kill and choke lines closed, do low pressure test and close standpipe trapping pressure, bleed off at pump and record. Same with high pressure test
   (i) Open pipe rams, close bag, close kill line, open control and master valves on choke line, close HCR valve, do low pressure test and record, do high pressure test and record, bleed off
   (j) Reconnect kill line and open both valves, install FOSV in drill pipe. Through kill line do low pressure test and record, do high pressure test and record, bleed off
   (k) Take off FOSV and install internal preventer, Through kill line do low pressure test and record, do high pressure test and record, bleed off
   (l) The auxiliary pump line valve will be tested every time as well as most other valves
   (m) Check all levels in accumulator and back up systems, Record in Book.

2. During normal operation every 14 days

   (a) Blind rams will be tested when out of the hole with a test plug
   (b) Pipe, bag and HCR will be tested while still inside the shoe on trip in the hole with a test plug
   (c) All low and high pressure test will be the same
   (d) All shall be recorded in Book

BOP Inspection and Actuation

All required BOP equipment shall be actuated periodically to ensure operational readiness. Following are the minimum frequencies.

1. Every 12 hour shift the following are to be performed:
   (a) Check the accumulator pressure
   (b) Check the pressure of the emergency back-up system
   (c) Check the hydraulic fluid level in the accumulator
   (d) Check air pressure to support system
   (e) Record all of the above in IADC Log Book and well Ledger

2. Every trip, but do not do twice in 24 hours
   (a) Function test pipe rams (when inside shoe)
   (b) Function test blind rams(when out of hole)
   (c) Operate all Kelly cocks
   (d) Check Drill pipe safety valve
   (e) Function test HCR valve
   (f) Record all of the above in IADC Log Book and well Ledger

3. Every 7 days or 1 week actuate the following:
   (a) Annular preventer
   (b) All gate valves in the choke and kill system
   (c) Inside BOP
   (d) Record all of the above in IADC Log Book and well Ledger

Crew Training and Drills

BOP Practice drills and training sessions shall be conducted at least once each week for each crew. These drills shall be performed with everyone on site to provide training for each crew member to ensure:

1. A clear understanding of the purpose and the method of operation of each preventer and all associated equipment
2. The ability to recognize the warning signs that accompany a kick
3. The crew shall be aware this is a shallow slim hole which reduces volume in the annulus and requires increased attention
4. A clear understanding of each crew members station and duties in the event of a kick while drilling, tripping or out of the hole
5. A clear understanding of the maximum allowable casing pressure (MACP) and the significance of the pressure for well conditions that exist at the time of the drill or training session

BOP Records Requirements

1. A record of all inspections and tests must be recorded in IADC Log book and well ledger
2. A record of all crew drills and training sessions must be kept in the IADC Log book and well ledger

BOP Maintenance Requirements

1. All equipment shall be maintained in accordance with the manufacturer's recommendations
2. All maintenance records shall be kept for the past three years

Shut-In Procedure Drilling and Tripping

Drilling

1. For a kick while drilling stop the rotary and sound the alarm
2. Pick up drill string until the Kelly saver sub clears the rotary table
3. Stop the pumps
4. Close the annular preventer
5. Confirm that all flow from the well is stopped. No flow should occur from the choke manifold, the bell nipple or back through the drill string
6. Open the HCR valve
7. Read and record SIDPP (shut in drill pipe pressure) SICP (shut in casing pressure) Allow to stabilize first
8. Read and record the pit level increase
9. Notify Supervisor

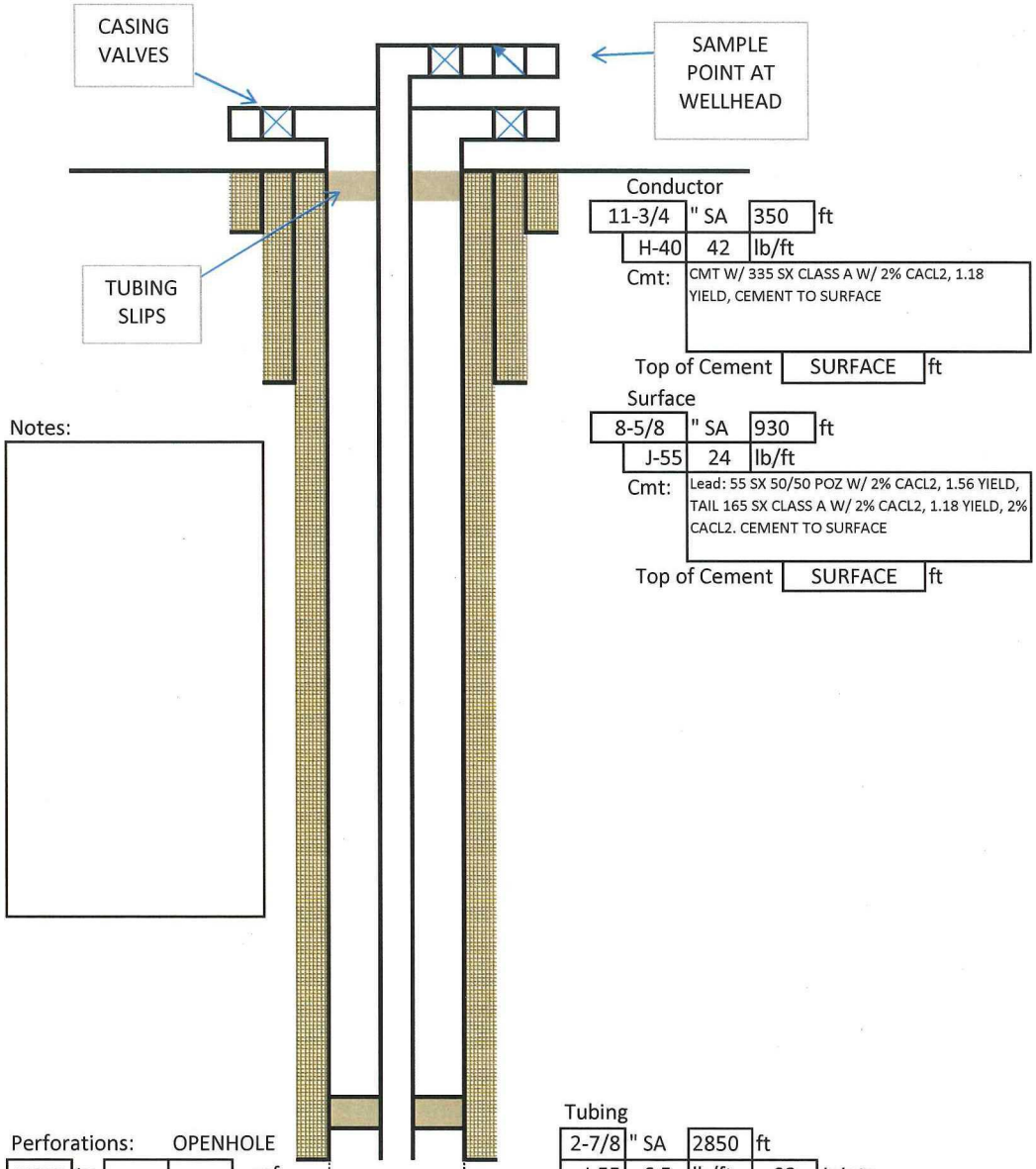
The primary advantage of a hard shut-in is that the kick influx is held to a small volume because the well is closed in more quickly.

Tripping

1. For a kick while tripping immediately .set the slips and sound the alarm
2. Install and make up the FOSV in the drill pipe. It should be open
3. Close the drill pipe safety valve
4. Open the HCR valve
5. Close the BOP
6. Close the choke
7. Confirm that all flow from the well has stopped
8. Pick up and make up the Kelly
9. Record SIDPP and SICP
10. Read and record pit level increase
11. Notify Supervisor

Wellbore Sketch

Well: HAYSTEAD 9 SWD KB: TBD Permit#: TBD
Operator: West Bay Exploration Company GL: TBD
Surf. Loc.: NE /Q NW /Q SW /Q Sec. 9 T 4S R 2E



Conductor
11-3/4 " SA 350 ft
H-40 42 lb/ft
Cmt: CMT W/ 335 SX CLASS A W/ 2% CACL2, 1.18 YIELD, CEMENT TO SURFACE
Top of Cement SURFACE ft

Surface
8-5/8 " SA 930 ft
J-55 24 lb/ft
Cmt: Lead: 55 SX 50/50 POZ W/ 2% CACL2, 1.56 YIELD, TAIL 165 SX CLASS A W/ 2% CACL2, 1.18 YIELD, 2% CACL2. CEMENT TO SURFACE
Top of Cement SURFACE ft

Notes:

Perforations: OPENHOLE

NONE	to			spf
	to			spf
	to			spf
	to			spf
	to			spf

7-7/8" OPEN HOLE
2870 to 3100 feet

PBTD: 3100
TD: 3100

Tubing
2-7/8 " SA 2850 ft
J-55 6.5 lb/ft 92 Joints
Avg. Jt. Length: 31.0 ft
AD-L Tension
PACKER SA 2850 ft

Production String
5.5 " SA 2870 ft
J-55 15.5 lb/ft
Cmt: LEAD: 250 SX 50/50 POZ, YIELD 1.5X CUFT/SX, TAIL: 200 SX CLASS A, 1.18 CUFT/SX. CMT TO SURFACE
Top of Cement SURFACE ft

DEQ MICHIGAN DEPAR IT OF ENVIRONMENTAL QUALITY - OFFICE OF OLOGICAL SURVEY

WELLHEAD BLOWOUT CONTROL SYSTEM

Worksheet supplement for "Application for Permit to Drill or Deepen a Well

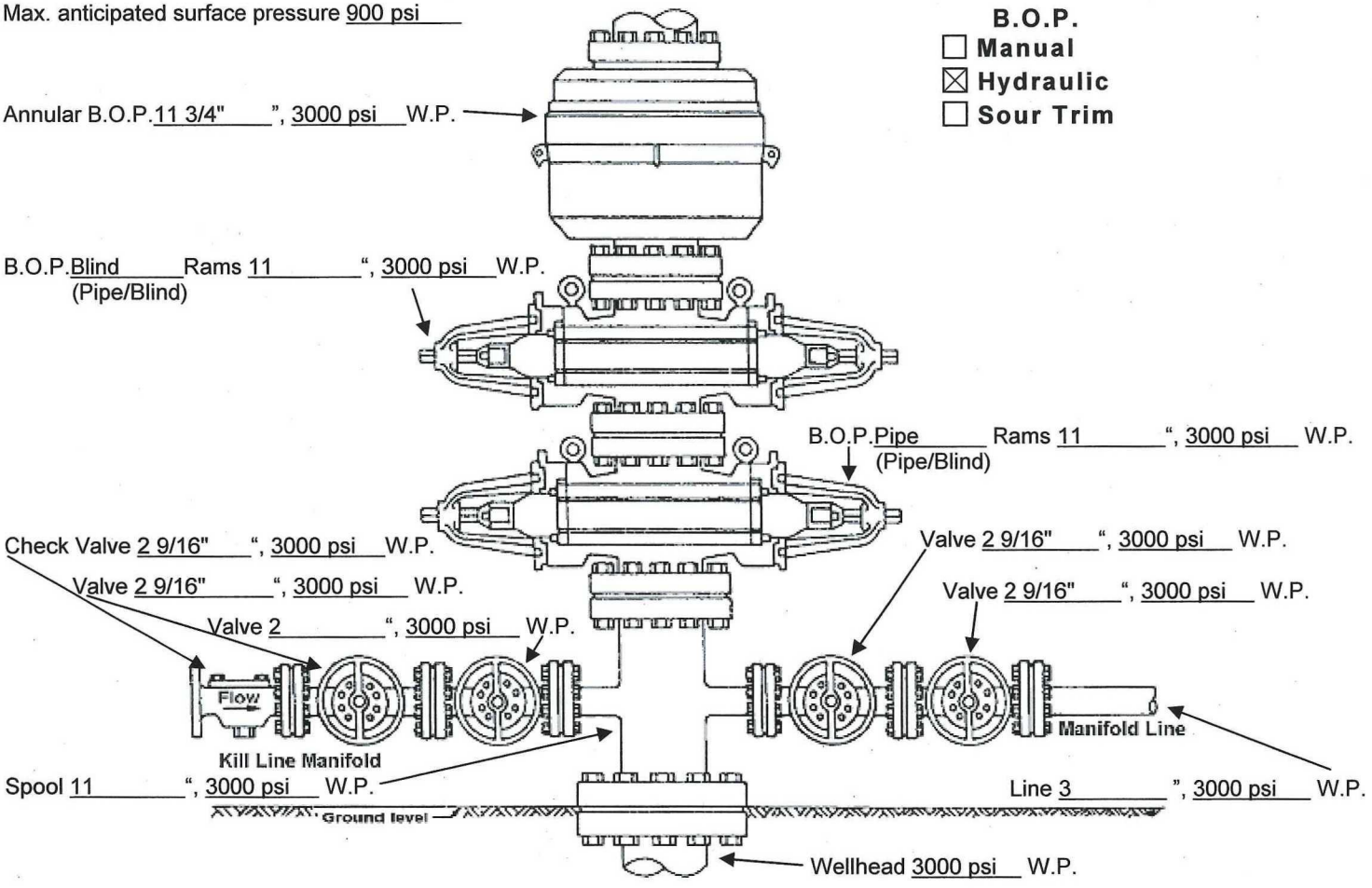
This information is required by authority of Part 615 Supervisor of Wells or Part 625 Mineral Wells, Act 451 PA 1994, as amended, in order to obtain a permit.

Applicant
West Bay Exploration Company
13685 South West Bay Shore, Suite #200
Traverse City, MI 49684

Well name and number
Haystead 9 SWD

Max. anticipated surface pressure 900 psi

B.O.P.
☐ **Manual**
☒ **Hydraulic**
☐ **Sour Trim**



Fill above blanks with applicable information. If not applicable, enter "N.A." or cross-out item shown.
Describe test pressures and procedure for conducting pressure test. Identify any exceptions to R324.406 being requested.

Attachment Q

OMB No. 2040-0042 Approval Expires 1/31/05

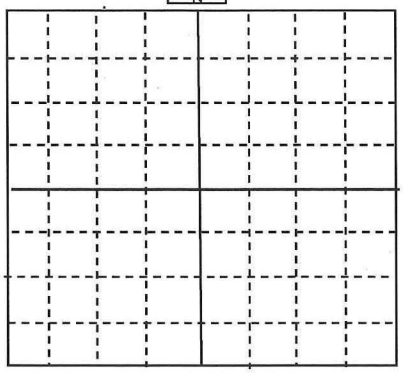
UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

PLUGGING AND ABANDONMENT PLAN

Name and Address of Facility
Haystead 9 SWD

Name and Address of Owner/Operator
West Bay Exploration Company
13685 West Bay Shore Drive Suite 200
Traverse City, MI 49684

Locate Well and Outline Unit on Section Plat - 640 Acres



State	County	Permit Number
Michigan	Jackson	

Surface Location Description
NE 1/4 of NE 1/4 of NW 1/4 of SW 1/4 of Section 9 Township 4S Range 2E

Locate well in two directions from nearest lines of quarter section and drilling unit
Surface Location 2475 ft. From (N/S) S Line of Quarter Section
And 1123 ft. From (E/W) W Line of Quarter Section

TYPE OF AUTHORIZATION
- [x] Individual Permit
- [ ] Area Permit
- [ ] Rule

Number of Wells 1

Lease Name HAYSTEAD

WELL ACTIVITY
- [ ] Class I
  - [ ] Hazardous
  - [ ] Nonhazardous
- [x] Class II
  - [x] Brine Disposal
  - [ ] Enhanced Recovery
  - [ ] Hydrocarbon Storage
- [ ] Class III

Well Number 9 SWD

CASING AND TUBING RECORD AFTER PLUGGING

SIZE	WT (LB/FT)	TO BE PUT IN WELL (FT)	TO BE LEFT IN WELL (FT)	HOLE SIZE
11-3/4	42	350	350	14-3/4
8-5/8	24	930	930	10-3/4
5-1/2	15.5	2,870	2,870	7-7/8

METHOD OF EMPLACEMENT OF CEMENT PLUGS
- [x] Balance Method
- [x] Dump Bailer Method
- [ ] Two Plug Method
- [x] Other

CEMENT TO PLUG AND ABANDON DATA:	Plug #1	Plug #2	Plug #3	Plug#4	Plug #5	Plug #6	Plug #7
Size of Hole or Pipe in Which Plug Will Be Placed (inches)	7/7/8	5	5	5	5		
Depth to Bottom of Tubing or Drill Pipe (ft)	3,100	2,850	1,800	1030	450		
Sacks of Cement To Be Used (each plug)	70	30	40	25	51		
Slurry Volume To Be Pumped (cu. Ft.)	82.6	35.4	47.2	29.5	60		
Calculated Top of Plug (ft.)	2,850	2600	1450	830	0		
Measured Top of Plug (if tagged, ft.)	2,850	2600	1450	830	0		
Slurry Weight (Lb./Gal.)	15.6	15.6	15.6	15.6	15.6		
Type of Cement or Other Material (Class III)	CLASS A	CLASS A	CLASS A	CLASS A	CLASS A		

LIST ALL OPEN HOLE AND/OR PERFORATED INTERVALS AND INTERVALS WHERE CASING WILL BE VARIED (if any)

From	To	From	To
3100	2870 OPEN HOLE		

Estimated Cost to Plug Wells

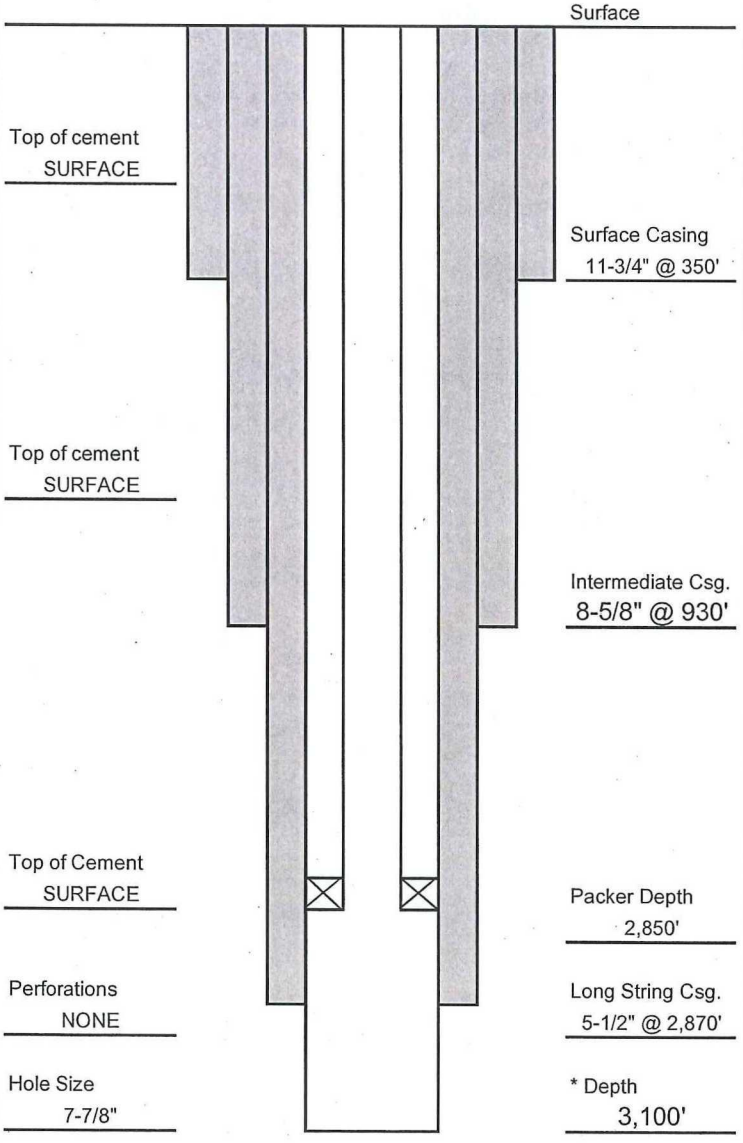
RIG	4815	MISC COSTS	2700
CEMENT	7400	CONTING	1025
RETAINER	3000	TOTAL	21700
SITE COST	2760	SEE ATTACHED WORKSHEET	

CERTIFICATION

I certify under the penalty of law that I have examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment. (Ref.40 CFR 144.32)

Name and Official Title (Please type or print)	Signature	Date Signed
TIMOTHY J BROCK, AGENT	Timothy J Brock	1/23/2012

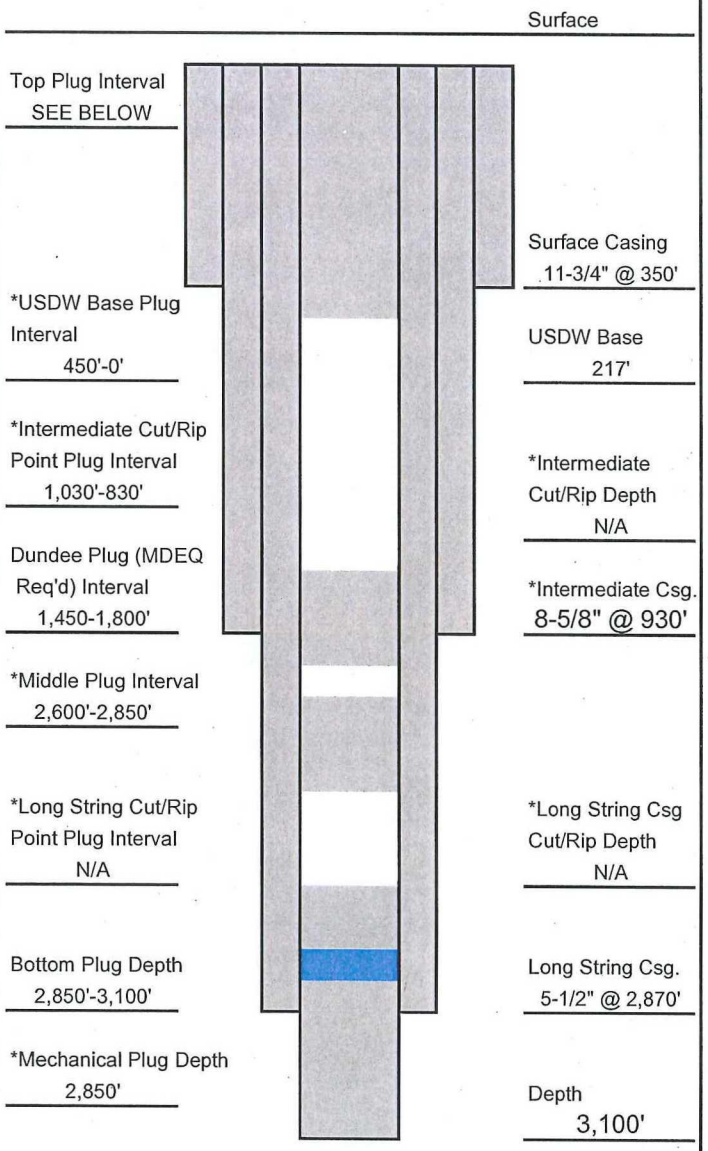
ORIGINAL WELL CONSTRUCTION DURING OPERATION



** Add Any Additional Information

* May not Apply

PLUGGING AND ABANDONMENT CONSTRUCTION



** Add Any Additional Information

* May not Apply

LIST OF ALL OPEN AND/OR PERFORATED INTERVALS AND INTERVALS WHERE CASING WILL BE VARIED

Specify Open Hole/ Perforations/ Varied Casing	From	To	Formation Name
OPEN HOLE	2,870	3,100	NIAGARAN

COST ESTIMATE FOR PLUGGING AND ABANDONMENT

Permittee:	West Bay Exploration Company
Well Name:	Haystead 9 SWD
EPA Permit Number:	Proposed Well
Party Providing Cost Estimate:	Brock Engineering, LLC
Total Cost Estimate:	$21,200
Date of Cost Estimate:	1/21/2011

Plug Locations Required for Proper P&A:

Plug Identifier*	**Plug Top**	**Plug Bottom**	**Zone Being Protected** (such as USDW, gas, rip point etc.)
Examples: 7"casing shoe 2700'-2600', surface, perforations 2100'-1900			
BELOW RETAINER	2850	3100	INJECTION ZONE
ABOVE RETAINER	2650	2850	BASE OF LONG STRING
ACROSS BASE OF 8-5/8	830	1030	BASE OF INTERMEDIATE CASING
BASE OF USDW TO SURFACE	0	400	BASE OF USDW

Have any intervals/sections of the wellbore been plugged previously? If so, give the location of the plugs, the circumstances that required the plug and how the plug was set.

NO

Plugging and Abandonment Normal Costs

1. Rig Costs

Travel	1	miles @	175	per mile =	$175
Labor (Super & Crew)		hrs @		per hour =	
Equipment Costs (Rig cost, drilling package, etc.)	20	hrs @	232	per hour =	$4,640
Miscellaneous Site Costs (Tubing work string rental, water storage, flow tanks, mud pit, etc.)		hrs @		per hour =	
Well Head Cutting				=	
Cement Tagging		feet @		per foot =	
Pulling Casing/Tubing		hrs @		per hour =	

2. Cement Costs

Pump Truck & Operator (Including Set Up)		8	hrs @	340	per hour =	$2,720
Tank Truck & Operator		8	hrs @	90	per hour =	$720
Type Cement	CLASS A	165	sacks @	10	per sack =	$1,650
Type Cement			sacks @		per sack =	
Type Cement			sacks @		per sack =	
Cement Retainer(s)		1	retainer(s) @	3000	each =	$3,000
List Retainers						
Cement Additives (high temperature/pressure)					=	
Balance Plug inc. fluids and testing			plugs @		per plug =	
List Plugs:	MILEAGE AND TRANSPORTATION NOPLACE ELSE TO PUT ON THIS FORM					
Surface Plug inc. fluids and testing					=	$1,780

COST ESTIMATE FOR PLUGGING AND ABANDONMENT

3. Wireline Service

Transportation		hrs @		per hour =	
Labor		hrs @		per hour =	
Service Charges				=	
Perf/Squeeze		shots @		per shot =	
Cut/pull Casing		rips @		per rip =	
Cement Retainer(s)		retainer(s) @		each =	
List Retainers					
TOC Log				=	
Depth charge for gage rings, junk basket		feet @		per foot =	
Specialized tools for fluid sampling				=	

4. Site Preparations & Costs

General Site Engineering & Plan Development				=	
Owner/Operator Site Supervisor				=	$1,700
Backhoe & Operator	4	hrs @	80	per hour =	$320
Dozer & Operator	3	hrs @	80	per hour =	$240
Road Construction and Improvement Costs				=	
Pit Liner				=	$500

5. Transportation & Miscellaneous

Special Land Use Costs (Zoning & Permits)				=	
Winch truck w/driver (wages & mileage)	4	hrs @	100	per hour =	$400
Water truck w/ driver (wages & mileage)		hrs @		per hour =	
Vacuum Truck w/ driver (wages & mileage)		hrs @		per hour =	
2 axle rig-up truck driver& crew wages & mileage)		hrs @		per hour =	
1 axle truck w/ driver (wages & mileage)		hrs @		per hour =	
Hot oiler (equip, labor & mileage)		hrs @		per hour =	
Welder (equip, labor & mileage)	4	hrs @	75	per hour =	$300
Packer Fluid per specs		bbl @		per bbl =	
Hydraulic Jacks		hrs @		per hour =	
Bridge Plug				=	
Waste Disposal Costs				=	$2,000
Tool Rental (Describe; examples: Casing Ripper, Collar Buster, etc.)					
Tool 1				=	
Tool 2				=	
Tool 3				=	

6. Remediation Costs (mostly applicable to shallow wells)

Sample Analysis (fluid or soil)	=	
Soil Removal	=	
Site Assessment Study Costs	=	
System Removal Costs	=	
Disposal System Modification Costs	=	
Installation of Monitoring Well Costs	=	
# Wells:		
Type:		
Depth:		
Construction:		

SUBTOTAL:		=	$20,145
Contingency:	5.0 %	=	$1,007
INITIAL TOTAL		=	$21,152
Inflation factor		=	1.00
TOTAL AMOUNT, Rounded to $100		=	**$21,200**

Attachment R

West Bay Exploration company

13685 S. West Bay Shore / Suite 200
Traverse City, MI 49684
231-946-0200 / Fax: 231-946-8180

September 19, 2011

USEPA Region 5
Class II Injection Well Division
77 West Jackson Blvd., WU 16J
Chicago, IL 60604

RE: Haystead 9 SWD
Previously submitted application

To Whom it May Concern:

Enclosed, please find additional data to continue processing the application of the proposed Haystead 9 SWD application.

Should you require further information, or have any questions, please feel free to contact Mr. Tim Brock, or myself at 231-946-0200.

Sincerely,

Ann M Baker
West Bay Exploration Company

DEQ MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY – OFFICE OF GEOLOGICAL SURVEY

BOND FOR CONFORMANCE

By authority of Part 615, Supervisor of Wells, Act 451 PA 1994, as amended. Non-submission and/or falsification of this information may result in fines and/or imprisonment.

OIL AND GAS OPERATIONS BOND

Bond number 08937736

☒ Single $ 25,000

☐ Blanket $ _____ Attach initial well list

Well name and number Haystead 9 SWD

West Bay Exploration Company, Inc., 13685 South West Bay Shore, Suite #200,

(name and address of Principal)

Traverse City, Michigan 49684 in the State of Michigan as Principal and

Fidelity and Deposit Company of Maryland, PO Box 1227, Baltimore, Maryland 21203

(name and address of Surety)

a corporation organized and existing under the laws of the State of Maryland and duly authorized to transact business in the State of Michigan, as Surety, are held and firmly bound unto the State of Michigan in the penal sum of

Twenty-five Thousand and No/100's ---------- Dollars.

The Principal named is about to commence and prosecute to final completion well(s) and operations authorized by permits issued or to be issued under Part 615, Act 451 PA 1994, as amended.

"Final completion" means the time when locating, drilling, deepening, converting, operating, producing, reworking, plugging, and proper site restoration have been performed on a well in a manner approved by the supervisor, including the filing of the mandatory records, and when the conformance bond has been released.

When the Principal complies with the provisions of the applicable provisions of Part 615, Act 451 PA 1994, as amended, in the final completion of the well(s), the Surety's obligations can be terminated otherwise this obligation remains in full force and effect. The Surety's liability herein is co-extensive with that of the Principal and the State of Michigan has the same remedies against the Surety as against the Principal.

This bond is executed and accepted subject to the following condition: The liability of this bond is set forth in R 324.211, R 324.213, R 324.214, and R 324.215 of the rules promulgated under section 61506 of Part 615, Supervisor of Wells, Act 451 PA 1994, as amended. (See reverse side of bond)

The Surety, by execution of the bond, accepts the liability covered by prior bond(s) _____

(number(s) and company)

and gives notice to the Supervisor of Wells of the need for terminating the prior bond(s) as listed herein with such termination to be effective as of the time that this bond becomes effective.

Signed, sealed and dated the 27th day of September, 2011

West Bay Exploration Company, Inc.
(Principal)

By _____
(Signature)

Patrick M. Gibson Vice-President
(Name and title)

Fidelity and Deposit Company of Maryland
(Surety)

By _____
(Signature)

Cathy Heiliger, Attorney-In-Fact
(Name and title)

When the Principal or Surety executes this bond by an agent, power of attorney or other evidence of authority must accompany the bond.

DEQ USE ONLY		
Permit number	Issue date	
Type of well	Current true vertical depth	Purpose of bond

EQP 7200-3 (rev. 1/2005)

MAIL TO:
OFFICE OF GEOLOGICAL SURVEY
MICHIGAN DEPT OF ENVIRONMENTAL QUALITY
PO BOX 30256
LANSING, MI 48909-7756

DEQ MICHIGAN DEPA. ENT OF ENVIRONMENTAL QUALITY – OFFICE C EOLOGICAL SURVEY

BOND FOR CONFORMANCE

By authority of Part 615, Supervisor of Wells, Act 451 PA 1994, as amended. Non-submission and/or falsification of this information may result in fines and/or imprisonment.

OIL AND GAS OPERATIONS BOND

Bond number 08937736

☒ Single $ 25,000

☐ Blanket $ _____ Attach initial well list

Well name and number Haystead 9 SWD

West Bay Exploration Company, Inc., 13685 South West Bay Shore, Suite #200,

(name and address of Principal)

Traverse City, Michigan 49684 in the State of Michigan as Principal and

Fidelity and Deposit Company of Maryland, PO Box 1227, Baltimore, Maryland 21203

(name and address of Surety)

a corporation organized and existing under the laws of the State of Maryland and duly authorized to transact business in the State of Michigan, as Surety, are held and firmly bound unto the State of Michigan in the penal sum of

Twenty-five Thousand and No/100's ---------- Dollars.

The Principal named is about to commence and prosecute to final completion well(s) and operations authorized by permits issued or to be issued under Part 615, Act 451 PA 1994, as amended.

"Final completion" means the time when locating, drilling, deepening, converting, operating, producing, reworking, plugging, and proper site restoration have been performed on a well in a manner approved by the supervisor, including the filing of the mandatory records, and when the conformance bond has been released.

When the Principal complies with the provisions of the applicable provisions of Part 615, Act 451 PA 1994, as amended, in the final completion of the well(s), the Surety's obligations can be terminated otherwise this obligation remains in full force and effect. The Surety's liability herein is co-extensive with that of the Principal and the State of Michigan has the same remedies against the Surety as against the Principal.

This bond is executed and accepted subject to the following condition: The liability of this bond is set forth in R 324.211, R 324.213, R 324.214, and R 324.215 of the rules promulgated under section 61506 of Part 615, Supervisor of Wells, Act 451 PA 1994, as amended. (See reverse side of bond)

The Surety, by execution of the bond, accepts the liability covered by prior bond(s) _____

(number(s) and company)

and gives notice to the Supervisor of Wells of the need for terminating the prior bond(s) as listed herein with such termination to be effective as of the time that this bond becomes effective.

Signed, sealed and dated the 27th day of September, 2011

West Bay Exploration Company, Inc.
(Principal)

By _____
(Signature)

Patrick M. Gibson Vice-President
(Name and title)

Fidelity and Deposit Company of Maryland
(Surety)

By _____
(Signature)

Cathy Heiliger, Attorney-In-Fact
(Name and title)

When the Principal or Surety executes this bond by an agent, power of attorney or other evidence of authority must accompany the bond.

DEQ USE ONLY		
Permit number	Issue date	
Type of well	Current true vertical depth	Purpose of bond

EQP 7200-3 (rev. 1/2005)

MAIL TO:
OFFICE OF GEOLOGICAL SURVEY
MICHIGAN DEPT OF ENVIRONMENTAL QUALITY
PO BOX 30256
LANSING, MI 48909-7756

Excerpts from General Rules governing oil and gas operations (effective 9/20/96)

R 324.211 Liability on conformance bond.

Rule 211.

(1) The liability on the conformance bond is conditioned upon compliance with the act, these rules, permit conditions, instructions, or orders of the supervisor. Subject to the provisions in R 324.213, liability shall cover all operations of the permittee as follows:

(a) Through transfer of the permit for the subject well pursuant to R 324.206(6).

(b) Through final completion approved by the supervisor of the subject well.

(c) Otherwise as approved by the supervisor.

(2) The supervisor shall look to the conformance bond for immediate compliance with, and fulfillment of, the full conditions of the act, these rules, permit conditions, instructions, or orders of the supervisor. All expenses incurred by the supervisor in achievement of compliance with, and fulfillment of, all conditions of the act, these rules, permit conditions, instructions, or orders of the supervisor shall be paid by the permittee or the surety or from cash or securities on deposit. The claim shall be paid within 30 days of notification to the permittee or surety that expenses have been incurred by the supervisor. If the claim is not paid within 30 days, the supervisor, acting for and on behalf of the state, may bring suit for the payment of the claim.

R 324.212 Conformance bond amounts.

Rule 212.

A person who drills or operates a well shall file a conformance bond with the supervisor for the following amounts, as applicable:

(a) Single well conformance bonds shall be filed in the following amounts, as applicable:

(i) $10,000.00 for wells up to and including 2,000 feet deep, true vertical depth.

(ii) $20,000.00 for wells deeper than 2,000 feet, but not deeper than 4,000 feet, true vertical depth.

(iii) $25,000.00 for wells deeper than 4,000 feet, but not deeper than 7,500 feet, true vertical depth.

(iv) $30,000.00 for wells deeper than 7,500 feet, true vertical depth.

(b) A person may file single well conformance bonds in an amount equal to 1/2 of the amount specified in subdivision (a) of this rule for wells where well completion operations have not commenced. A person may not file single well conformance bonds under this subdivision for more than 5 wells. A person shall file single well conformance bonds in the full amount specified in subdivision (a) of this rule or file a blanket conformance bond as specified in subdivision (c) of this rule or submit a statement of financial responsibility pursuant to R 324.210 before the commencement of well completion operations on any well.

(c) Blanket conformance bonds may be filed as an alternative to single well conformance bonds. If a blanket conformance bond is utilized, then the permittee shall provide the supervisor with a list of wells covered by the blanket conformance bond. A maximum of 100 wells may be covered by a blanket conformance bond. If the permittee has more than 100 wells in a category, then the additional wells may be covered by single well conformance bonds or additional blanket conformance bonds. Blanket conformance bonds shall be filed in the following amounts, as applicable:

(i) $100,000.00 for wells up to and including 2,000 feet deep, true vertical depth.

(ii) $200,000.00 for wells deeper than 2,000 feet, but not deeper than 4,000 feet, true vertical depth.

(iii) $250,000.00 for wells deeper than 4,000 feet, true vertical depth.

(d) A person shall not be required to file a blanket conformance bond or bonds in an aggregate amount of more than $250,000.00. When the aggregate amount of the conformance bonds is $250,000.00, the permittee may file 1 blanket conformance bond of $250,000.00 to cover all of his or her wells.

R 324.213 Cancellation of conformance bonds issued by a surety.

Rule 213.

(1) A surety company may cancel a conformance bond acquired pursuant to these rules upon 90 days' notice to the supervisor of the effective date of cancellation. However, the surety company shall retain liability for all violations of the act, these rules, permit conditions, instructions, or orders of the supervisor that occurred during the time the conformance bond was in effect.

(2) Forty days before the effective date of cancellation, as provided in subrule (1) of this rule, a permittee shall secure a conformance bond from another surety company authorized to do business in the state of Michigan, deposit cash or other securities, or bring the well to final completion. Failure to comply with this subrule shall be cause for the immediate suspension of any or all components of the operations on the well.

(3) A surety company shall remain liable until the violations have been corrected and the corrections are accepted by the supervisor for all violations of the act, these rules, permit conditions, instructions, or orders of the supervisor that occurred at the well during the time the conformance bond was in effect before the effective date of cancellation.

R 324.214 Limitation of additional liability of blanket conformance bonds.

Rule 214.

A surety company may refuse to accept liability for additional wells under a blanket conformance bond by giving 10 days' notice by registered mail to the supervisor. Subject to the provisions of R 324.213, the blanket conformance bond shall continue in full force and effect as to all other wells covered by the blanket conformance bond for which permits were granted or transferred to the permittee before the effective date of the notice.

R 324.215 Release of conformance bonds; release of well from blanket conformance bond.

Rule 215.

(1) A conformance bond shall be released or a well shall be released from a blanket conformance bond, subject to the provisions of R 324.213, by the supervisor or authorized representative of the supervisor if a permittee disposes of the well and the permit for the well has been transferred to a new person pursuant to R 324.206(6) or if the well has been plugged and proper site restoration has been performed pursuant to R 324.1003, including the filing of the mandatory records.

(2) The release of the conformance bond or the release of a well from a blanket conformance bond does not release a permittee from liability for any violations of the act, these rules, permit conditions, instructions, or orders of the supervisor which occurred during the time the conformance bond was in effect and which have not been corrected and accepted by the supervisor.

(3) A conformance bond filed to comply with a permit that has become terminated shall be released if there is final completion.

Power of Attorney
FIDELITY AND DEPOSIT COMPANY OF MARYLAND
COLONIAL AMERICAN CASUALTY AND SURETY COMPANY

KNOW ALL MEN BY THESE PRESENTS: That the FIDELITY AND DEPOSIT COMPANY OF MARYLAND, and the COLONIAL AMERICAN CASUALTY AND SURETY COMPANY, corporations of the State of Maryland, by FRANK E. MARTIN JR., Vice President, and GREGORY E. MURRAY, Assistant Secretary, in pursuance of authority granted by Article VI, Section 2, of the By-Laws of said Companies, which are set forth on the reverse side hereof and are hereby certified to be in full force and effect on the date hereof, does hereby nominate, constitute and appoint **Diane KERN, Janet L. JENKINS, Stuart F. DESELMS, William A. GRANT, Jeffrey W. HOLMES, Brigette BURGESS and Cathy HEILIGER, all of Tulsa, Oklahoma, EACH** its true and lawful agent and Attorney-in-Fact, to make, execute, seal and deliver, for, and on its behalf as surety, and as its act and deed: **any and all bonds and undertakings,** and the execution of such bonds or undertakings in pursuance of these presents, shall be as binding upon said Companies, as fully and amply, to all intents and purposes, as if they had been duly executed and acknowledged by the regularly elected officers of the Company at its office in Baltimore, Md., in their own proper persons. This power of attorney revokes that issued on behalf of Diane KERN, Janet L. JENKINS, Stuart F. DESELMS, William A. GRANT, Jeffrey W. HOLMES, Brigette BURGESS, Michelle RICHIE, dated January 11, 2005.

The said Assistant Secretary does hereby certify that the extract set forth on the reverse side hereof is a true copy of Article VI, Section 2, of the By-Laws of said Companies, and is now in force.

IN WITNESS WHEREOF, the said Vice-President and Assistant Secretary have hereunto subscribed their names and affixed the Corporate Seals of the said FIDELITY AND DEPOSIT COMPANY OF MARYLAND, and the COLONIAL AMERICAN CASUALTY AND SURETY COMPANY, this 16th day of January, A.D. 2007.

ATTEST:

FIDELITY AND DEPOSIT COMPANY OF MARYLAND
COLONIAL AMERICAN CASUALTY AND SURETY COMPANY

FIDELITY AND DEPOSIT COMPANY OF MARYLAND INCORPORATED 1890

COLONIAL AMERICAN CASUALTY AND SURETY COMPANY SEAL

By:

Gregory E. Murray Assistant Secretary *Frank E. Martin Jr.* *Vice President*

State of Maryland }
City of Baltimore } ss:

On this 16th day of January, A.D. 2007, before the subscriber, a Notary Public of the State of Maryland, duly commissioned and qualified, came FRANK E. MARTIN JR., Vice President, and GREGORY E. MURRAY, Assistant Secretary of the FIDELITY AND DEPOSIT COMPANY OF MARYLAND, and the COLONIAL AMERICAN CASUALTY AND SURETY COMPANY, to me personally known to be the individuals and officers described in and who executed the preceding instrument, and they each acknowledged the execution of the same, and being by me duly sworn, severally and each for himself deposeth and saith, that they are the said officers of the Companies aforesaid, and that the seals affixed to the preceding instrument is the Corporate Seals of said Companies, and that the said Corporate Seals and their signatures as such officers were duly affixed and subscribed to the said instrument by the authority and direction of the said Corporations.

IN TESTIMONY WHEREOF, I have hereunto set my hand and affixed my Official Seal the day and year first above written.

MARIA D. ADAMSKI NOTARY PUBLIC BALTIMORE COUNTY, MD

Maria D. Adamski *Notary Public*
My Commission Expires: July 8, 2011

Rebecca L. Harvey, Chief
Underground Injection Control Branch
U.S. Environmental Protection Agency
77 West Jackson Boulevard, WU-16J
Chicago, Illinois 60604-3590

Dear Ms. Harvey:

This letter requests that the attached State Bond # 08937736 in the amount of $ Twenty Five Thousand be considered an acceptable mechanism for meeting the Federal Underground Injection Control program financial responsibility requirement for the following well:

1. Well Name Haystead 9 SWD
2. Well Location: Township Norvell Range 2E
   Section 9 1/4 Section SW
   County Jackson
3. UIC Application # MI-075-2D-0010
4. Owner/Operator Name West Bay Exploration Company
5. Address 13685 South West Bayshore, Suite #200
   Traverse City, MI 49685
6. Phone (231) 946-0200

I certify under the penalty of law that I have personally examined and am familiar with the information submitted in this document and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment. (Ref. 40 CFR 144.32)

~~Ann M Baker-Permit Coordinator~~ Ann M Baker ~~11/28/2011~~

Name and Official Title Signature Date Signed

cc: Michigan Department of Natural Resources and the Environment

Appendix 1

Haystead 9 SWD
¼ mile area of review owners

Stanley and Valerie Bober
10800 Palmer Rd
Brooklyn, MI 49230

Harold and Harriet Haystead
11451 Austin Rd
Brooklyn, MI 49230

Appendix 2

West Bay Exploration company

13685 S. West Bay Shore / Suite 200
Traverse City, MI 49684
231-946-0200 / Fax: 231-946-8180

5555 N. Hogback Road
Fowlerville, MI 48836
517-223-4011 / Fax: 517-223-4020

April 18, 2011

Mr. Brian Conway
State Historic Preservation Officer
State Historic Preservation Office
Michigan Historical Center
702 West Kalamazoo Street
P.O. Box 30740
Lansing, MI 48909-8240

Re: National Historic Register Request
New Underground Injection Well Location:
Well Name: Haystead 9 SWD
T4S, R2E, Sec. 9, NE¼; NW¼, SW¼ (2,475' SL, 1,123' WL)
(Jackson County)

Dear Mr. Conway:

In order to apply for a United States Environmental Protection Agency (USEPA) permit for an underground injection well, the USEPA regulations require a determination that the injection well will not impact any properties listed or eligible for listing in the National Register of Historic Places. The well is/will be located as shown on the enclosed attachment. Please review this well location to make a determination in this matter. Please contact our office in writing with your determination so that we may forward the information to the USEPA.

Should you have any questions or requires any additional information regarding this location, please feel free to call me at (231) 946-0200.

Sincerely yours,

Ann Baker

Enclosure

STATE OF MICHIGAN
RICK SNYDER
GOVERNOR
MICHIGAN STATE HOUSING DEVELOPMENT AUTHORITY
STATE HISTORIC PRESERVATION OFFICE
GARY HEIDEL
EXECUTIVE DIRECTOR

July 18, 2011

JEFFREY MCDONALD
EPA REGION 5
77 WEST JACKSON BLVD WU 16J
CHICAGO IL 60604

West Bay
MI-075-28-0010
Katie

RE: ER11-451 Westshore Consulting Well Projects - Haystead 9 SWD, Section 9, T4S, R2E, Norvell Township, Jackson County (EPA)

Dear Mr. McDonald:

Under the authority of Section 106 of the National Historic Preservation Act of 1966, as amended, we have reviewed the above-cited undertaking at the location noted above. Based on the information provided for our review, it is the opinion of the State Historic Preservation Officer (SHPO) that **no historic properties are affected** within the area of potential effects of this undertaking.

The views of the public are essential to informed decision making in the Section 106 process. Federal Agency Officials or their delegated authorities must plan to involve the public in a manner that reflects the nature and complexity of the undertaking, its effects on historic properties and other provisions per 36 CFR § 800.2(d). We remind you that Federal Agency Officials or their delegated authorities are required to consult with the appropriate Indian tribe and/or Tribal Historic Preservation Officer (THPO) when the undertaking may occur on or affect any historic properties on tribal lands. **In all cases**, whether the project occurs on tribal lands or not, Federal Agency Officials or their delegated authorities are also required to make a reasonable and good faith effort to identify any Indian tribes or Native Hawaiian organizations that might attach religious and cultural significance to historic properties in the area of potential effects and invite them to be consulting parties per 36 CFR § 800.2(c-f).

This letter evidences EPA's compliance with 36 CFR § 800.4 "Identification of historic properties", and the fulfillment of EPA's responsibility to notify the SHPO, as a consulting party in the Section 106 process, under 36 CFR § 800.4(d)(1) "No historic properties affected".

The State Historic Preservation Office is not the office of record for this undertaking. You are therefore asked to maintain a copy of this letter with your environmental review record for this undertaking. If the scope of work changes in any way, or if artifacts or bones are discovered, please notify this office immediately.

If you have any questions, please contact Brian Grennell Cultural Resource Management Specialist, at (517) 335-2721 or by email at grennellb@michigan.gov. **Please reference our project number in all communication with this office regarding this undertaking.** Thank you for this opportunity to review and comment, and for your cooperation.

Sincerely,

Martha J. MacFarlane

Martha MacFarlane Faes
Deputy State Historic Preservation Officer

for Brian D. Conway
State Historic Preservation Officer

MMF:DLA:bgg

Copy: Wade VandenBosch, Westshore Consulting

DEQ MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY - OFFICE OF GEOLOGICAL SURVEY

SURVEY RECORD OF WELL LOCATION

This information is required by authority of Part 615 Supervisor of Wells, or Part 625 Mineral Wells, of Act 451 PA 1994, as amended, in order to obtain a drilling permit.

Applicant: West Bay Exploration Company

Well name and number: Haystead 9 SWD

1a. Surface location: NE 1/4 of NW 1/4 of SW 1/4 of section 9 T 4S R 2E — Township: Norvell — County: Jackson

1b. If this is a directional well, bottom hole location will be: ____ 1/4 of ____ 1/4 of ____ 1/4 of section ____ T ____ R — Township: ____ — County: ____

Instructions: Outline drilling unit for oil/gas wells (Part 615) or property boundary for mineral wells (Part 625) and spot well location on plat shown. Locate the well in two directions from the **nearest** section, quarter section, and unit (or property, Part 625) lines.

2. **The surface location is**

2459 ft. from nearest (N/S) S section line

1122 ft. from nearest (E/W) W section line

and

158 ft. from nearest (N/S) N quarter section line

1496 ft. from nearest (E/W) E quarter section line

3. **Bottom hole will be** (if directional)

____ ft. from nearest (N/S) ____ section line

____ ft. from nearest (E/W) ____ section line

and

____ ft. from nearest (N/S) ____ quarter section line

____ ft. from nearest (E/W) ____ quarter section line

4. **Bottom hole will be** (directional or straight)

____ ft. from nearest (N/S) ____ drilling unit line

____ ft. from nearest (E/W) ____ drilling unit line

5. Show access to stake on plat and describe if it is not readily accessible. Go south on I-127 to M-50. Go east on M-50 8 miles to Village of Napoleon, continue east for 2.5 miles on Austin Road. Go south and west on Palmer Road for 0.8 miles to farm lane to south. Take farm lane south for 0.3 miles, then east on farm lane 0.25 miles to well site.

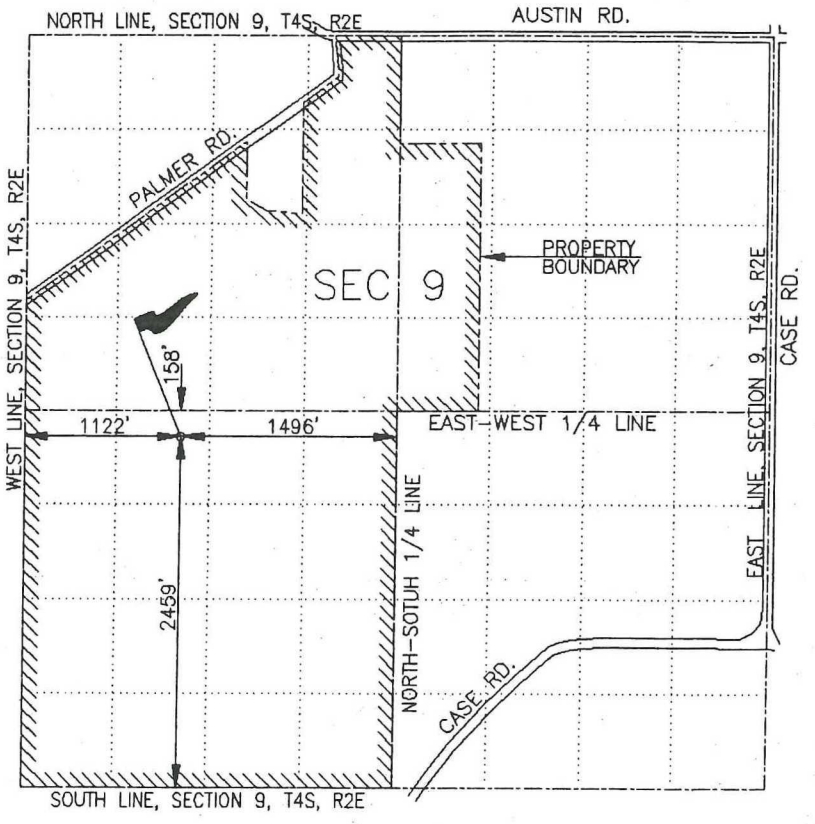
6. Zoning ☐ Residential, effective date ____

Initial date of residential zoning ____

☒ Other Agricultural

PLAT BELOW REPRESENTS ONE FULL SECTION (1 MILE SQUARE)

N ↑



ON SEPARATE PLAT OR PLOT PLAN, LOCATE, IDENTIFY AND SHOW DISTANCES TO:

A. All roads, power lines, buildings, residences, fresh water wells, and other man-made features, within 600 feet of the stake.

B. All lakes, streams, wetlands, drainage-ways, floodplains, environmentally sensitive areas, natural rivers, critical dune areas, and threatened or endangered species within 1320 feet of the stake.

C. All type I and IIa public water supply wells within 2000 feet and all type IIb and III public water supply wells within 800 feet of the well stake.

Name of individual who surveyed site	Company	Date of survey
Stephen V. Vallier, P.S.	Eastshore Consulting	09/28/2010
Address		**Phone**
2534 Black Creek Road, Muskegon, MI 49444		231-777-3447

I CERTIFY THE ABOVE INFORMATION IS COMPLETE AND ACCURATE TO THE BEST OF MY KNOWLEDGE AND BELIEF.

Signature of licensed surveyor (affix seal) — Date 3/17/11

STATE OF MICHIGAN — Stephen V. Vallier — PROFESSIONAL SURVEYOR — No. 38429 — LICENSED PROFESSIONAL SURVEYOR

EQP 7200-2 (rev. 01/2005) ENCLOSE WITH APPLICATION TO DRILL OR DEEPEN

STATE HISTORIC PRESERVATION OFFICE
Application for Section 106 Review

SHPO Use Only					
☐ IN	Received Date ___ / ___ / ___	Log In Date ___ / ___ / ___			
☐ OUT	Response Date ___ / ___ / ___	Log Out Date ___ / ___ / ___			
	Sent Date ___ / ___ / ___				

Submit one copy for each project for which review is requested. This application is required. Please type. Applications must be complete for review to begin. Incomplete applications will be sent back to the applicant without comment. Send only the information and attachments requested on this application. Materials submitted for review cannot be returned. Due to limited resources we are unable to accept this application electronically.

I. GENERAL INFORMATION

☒ THIS IS A NEW SUBMITTAL ☐ THIS IS MORE INFORMATION RELATING TO ER#

a. Project Name: Haystead 9 SWD - underground injection well
b. Project Address (if available): To be located on property addressed as 11451 Austin Road, Brooklyn, Michgan 49230
c. Municipal Unit: Norvell Township County: Jackson
d. Federal Agency, Contact Name and Mailing Address (*If you do not know the federal agency involved in your project please contact the party requiring you to apply for Section 106 review, not the SHPO, for this information.*): US Environmental Protection Agency, Region 5, Jeffrey McDonald, 77 West Jackson Boulevard, Chicago, Illinois 60604-3590, (312) 353-6288
e. State Agency (if applicable), Contact Name and Mailing Address: Michigan Department of Environmental Quality - Office of Geological Services, Kristi Shimko, Lansing District Office, 525 West Allegan Street 4N, P.O. Box 30242, Lansing, Michigan 48909, (517) 373-9409
f. Consultant or Applicant Contact Information (if applicable) *including mailing address*: Westshore Consulting, Wade VandenBosch, 2534 Black Creek Road, Muskegon, Michigan 49444, (231) 777-3447 Ext. 34

II. GROUND DISTURBING ACTIVITY (INCLUDING EXCAVATION, GRADING, TREE REMOVALS, UTILITY INSTALLATION, ETC.)

DOES THIS PROJECT INVOLVE GROUND-DISTURBING ACTIVITY? ☒ YES ☐ NO (If no, proceed to section III.)

Exact project location must be submitted on a USGS Quad map (portions, photocopies of portions, and electronic USGS maps are acceptable as long as the location is clearly marked).

a. USGS Quad Map Name: Norvell, Michigan (N4207.5-W8407.5/7.5)
b. Township: 4S Range: 2E Section: 9
c. Description of width, length and depth of proposed ground disturbing activity: Ground disturbing activity will be within an approximately 100 foot by 100 foot area and at existing grade. The well will be drilled to a depth of ± 3900 foot.
d. Previous land use and disturbances: Agricultural Farm Field
e. Current land use and conditions: Oil and gas well site and facility operations.
f. Does the landowner know of any archaeological resources found on the property? ☐ YES ☒ NO
Please describe:

III. PROJECT WORK DESCRIPTION AND AREA OF POTENTIAL EFFECTS (APE)
Note: Every project has an APE.

a. Provide a detailed written description of the project (plans, specifications, Environmental Impact Statements (EIS), Environmental Assessments (EA), etc. **cannot** be substituted for the written description): The project consists of the drilling and development of an injection well for brine disposal activities.
b. Provide a localized map indicating the location of the project; road names must be included and legible.
c. On the above-mentioned map, identify the APE.
d. Provide a written description of the APE (physical, visual, auditory, and sociocultural), the steps taken to identify the APE, and the justification for the boundaries chosen. The APE is estimated to be an approximately 1000 foot radius from the injection well site. The limits of earth disturbance will be confined to within a 50 foot radius, however, it is recognized that the project will inherently affect the property owners that have a line of sight to the construction work zone.

IV. IDENTIFICATION OF HISTORIC PROPERTIES

a. List and date **all** properties 50 years of age or older located in the APE. If the property is located within a National Register eligible, listed or local district it is only necessary to identify the district: The age of the properties within the APE vary. Photographs of all existing homes, regardless of age, within the APE are provided.
b. Describe the steps taken to identify whether or not any **historic** properties exist in the APE and include the level of effort made to carry out such steps: The properties and buildings within the Area of Potential Effects were discussed with Norvell Township municipal staff as to whether or not they were of historic relevence. Additionally, visual surveys were conducted of all properties. There is no tribal interest in any properties located in the APE.
c. Based on the information contained in "b", please choose one:
   - ☐ Historic Properties Present in the APE
   - ☒ No Historic Properties Present in the APE
d. Describe the condition, previous disturbance to, and history of any historic properties located in the APE: N/A

V. PHOTOGRAPHS
Note: All photographs must be keyed to a localized map.

a. Provide photographs of the site itself.
b. Provide photographs of all properties 50 years of age or older located in the APE (faxed or photocopied photographs are not acceptable).

VI. DETERMINATION OF EFFECT

☒ No historic properties affected based on [36 CFR § 800.4(d)(1)], please provide the basis for this determination.

☐ No Adverse Effect [36 CFR § 800.5(b)] on historic properties, explain why the criteria of adverse effect, 36 CFR Part 800.5(a)(1), were found not applicable.

☐ Adverse Effect [36 CFR § 800.5(d)(2)] on historic properties, explain why the criteria of adverse effect, [36 CFR Part 800.5(a)(1)], were found applicable.

Please print and mail completed form and required information to:
State Historic Preservation Office, Environmental Review Office, Michigan Historical Center, 702 W. Kalamazoo Street, P.O. Box 30740, Lansing, MI 48909-8240

Basis For Determination of Effect

Through background research and consultation with municipal staff at Norvell Township, tribal interest review, and a field visual assessment of the properties, it is concluded that there are no buildings or structures of significant historical importance within or adjacent to the APE.